

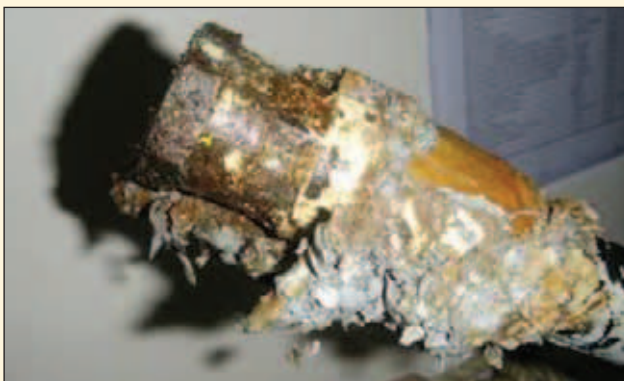
MARS 200935

Eye injury due to burst hose

Shortly after our tanker arrived at the designated berth, the bosun was operating the hose-handling crane to position the vessel's gangway to provide safe access to the ship. During this operation, a flexible hose on the crane came adrift from its coupling and hydraulic oil under high pressure sprayed out, some of it entering the bosun's eyes. About 200 litres of spilled hydraulic oil had to be collected from the deck and disposed of appropriately.

Root cause/contributory factors

1. Inappropriate use of anticorrosive tape, which deteriorated with time and aided the development of undetected corrosion;
2. Routine inspections were carried out without sufficient attention to detail and failed to detect the deteriorated condition of the hose and connector;
3. The quantity of oil spilled on deck was abnormally large, as the crane was not fitted with an emergency stop for the hydraulic power pack. This could only be turned off locally from the fo'c'sle, a considerable distance away.



▲ Figure 1: Deteriorated connector partly covered with protective tape



▲ Figure 2: Corroded internal wire braiding after removal of protective tape and connector

What went right

1. The crew acted quickly to provide first aid to the injured crew member;
2. The spilled oil was prevented from escaping overside.

Corrective/preventative actions

1. Company procedures revised and circulated among fleet for compliance; the use of anticorrosive tapes no longer permitted on hydraulic lines, as detailed in our company's maintenance policy. All vessels were instructed to remove all existing anti-corrosive tape from hydraulic connectors and apply protective coating (paint) on metal surfaces.
2. More effective onboard inspection and corrective actions ordered for noted defects and deficiencies.
3. Improved communications so that information reaches all key personnel.
4. Recommendation that the use of eye protection should be considered when operating hose handling cranes or other hydraulic machinery where flexible hoses and fittings may be exposed to the aggressive elements of the sea.
5. Recommendation that the flexible hoses on the hose handling crane be renewed every five years or earlier, if inspection indicates it is so required.

MARS 200936

Lifeboat lowered unintentionally

On one of our vessels, a dangerous occurrence (near miss incident) happened during the annual servicing and inspection of the lifeboat and its launching gear in port.

The class surveyor and the authorised representative of the launching equipment manufacturer were in attendance during the survey, with the technical superintendent. After the survey was completed, the manufacturer's representative informally asked the fourth engineer to open up the port side unit brake assembly the next day so that he could take pictures for his records.

Early the next morning, the fourth engineer, along with the bosun, wrongly assumed that the job was officially assigned to them and proceeded to open up the brake unit on the port lifeboat davit. On opening the cover bolts, the boat went down rapidly under gravity until it got stuck between the gangway and the jetty. Fortunately, there was no one inside the boat or on the gangway in way of the davits. The superintendent, who was on the jetty inspecting the ship side at that time, had a narrow escape.

Root cause/contributory factors

1. Breach of safe working practices: a critical task was undertaken without the knowledge or approval of responsible senior ship's officer / head of department;
2. The harbour pins were not in place;
3. The two crew members involved were not sufficiently experienced in the task.

Corrective/preventive actions

1. Incident report circulated throughout the company and fleet.
2. Company procedures amended to require that all critical tasks be planned and supervised by senior officers. No one should enter the life boats or carry out any maintenance work on lifeboats and associated launching appliances without clear instructions and the presence of a senior officer. Senior officers assigning jobs must take full responsibility for all jobs that are being carried out by their subordinates.

MARS 200937

Breach of enclosed space entry procedure

While our tanker was moored alongside a lay-by berth for minor repairs, the attending port state control (PSC) officers observed work being carried out in an enclosed space (slop tank) without a nominated person standing by at the entrance. This observed unsafe practice constituted a major non-conformance with the company's SMS procedures, permit to work system and industry best practice. As a result, PSC recorded a deficiency, requiring the company to conduct a formal investigation into enclosed space entry procedures and inform the outcome to all vessels.

Result of investigation

1. Repairs were being carried out to hydraulic lines in the slop tanks. Initially, six separate activities were planned for the short port call but after conducting a risk assessment, two activities were cancelled to ensure adequate supervision could be maintained. Accordingly, a company superintendent was dispatched to the ship to assist.
2. In the permit to work, the second officer was assigned as watchman and supervisor for the enclosed space entry and repair job. During this time, the PSC inspection was also in progress. When the second officer was requested to attend the navigation bridge, he was relieved by an OS. Shortly after, the OS was relieved for a break by the duty AB, whose duties included the gangway security watch.
3. Some 15 minutes later, visitors appeared at the gangway head and this required the attendance of the duty AB, to comply with ISPS security procedures. While he processed the newly arrived visitors, the chief officer, accompanied by the PSC inspectors, arrived on deck and observed the work being conducted in the enclosed space without an attending watchman / linkman monitoring the safety of the occupants.

Root cause/contributory factors

1. Lack of planning and failure to inform PSC that the second officer was supervising work in progress inside the enclosed space, when his presence was requested on the bridge;

2. Inadequate supervision of the operation by a senior or other officer;
3. Insufficient personnel assigned for all the activities that were taking place;
4. Failure to temporarily suspend work inside the enclosed space during PSC inspection or until satisfactory manning levels could be assured;
5. Lack of appreciation of the importance of the stand-by watchman / linkman for monitoring personnel engaged in work inside an enclosed space.

What went right

Following the incident, all involved contributed openly to the investigation, allowing the investigation team to review the incident with clarity and arrive at appropriate recommendations.

Lessons learned

1. The appointment of a permanent stand-by watchman or link man at the entrance of the enclosed space should be clearly discussed by the supervising officer at the pre-entry conference, with emphasis on ensuring that he would not be distracted by, or engaged in, other activities during the enclosed space entry.
2. Risk assessments conducted for port calls should take into account the likelihood of unannounced or a demanding of visitors to the ship and ensure that adequate procedures (controls) are put in place to ensure sufficient numbers of staff are on duty at all time to cover statutory requirements.
3. Ensure all persons engaged in enclosed space entry procedures, and particularly those acting as link man, have been informed of their duties and understand them.

■ **Editor's note:** The report does not state if the AB manning the gangway was, in turn, properly relieved by another crew member. Although one can reasonably presume that the slop tank manholes were probably located in the immediate vicinity of the gangway, and that the AB could have supervised the personnel working inside the tank during the OS's short break, while also watching the gangway, under the ISPS Code those personnel assigned gangway security duty may not be assigned any other task.

MARS 200938

Dragging of anchor and collision

Our vessel was anchored in a crowded inner anchorage with a current of up to two knots. A squall was observed approaching from the opposite direction of the tide. Own vessel contacted engine room to request engine and thrusters. As the squall passed, own vessel started to drag anchor. Fortunately the engine was started and vessel put into DP mode and successfully maintained position.

Among the other vessels in close proximity, a cargo vessel was observed to be dragging towards a tanker. Within 10 minutes, the two vessels had collided. During this period, nobody was observed on the bridge or the deck of the cargo vessel: only upon impact did crew members appear. On board the tanker the OOW had observed what was happening, however the engine was started late. But there was no

pollution and no report was made to the port authority over the radio.

Lessons learned

1. An efficient lookout and watch must be maintained at all times at anchor.
2. Beware of dragging, especially when in an area of strong tides / current.
3. Have engines on short notice when in crowded anchorage.
4. Have contingency plans in place, especially in areas where squalls can be expected.
5. Report incidents to the port authorities promptly.

MARS 200939

Poor housekeeping in machinery spaces



▲ Figure 3: Improvised plastic 'drip tray' fitted under sludge pump



▲ Figure 4: Receptacles placed under leaking hydraulic cylinders of steering gear

■ **Editor's note:** These photographs seem to suggest a general lack of concern on the part of the onboard management to investigate and eliminate sources of oil leaks from machinery properly. Apart from the obvious fire hazard, these arrangements increase the risk of personal injuries arising from slips and falls. They also present a pollution hazard.

MARS 200940

Fire in provision room

Official report: IMO Flag State Implementation (FSI) Sub-committee, 12th session

A fire broke out in the provision room of a small general cargo ship which had a complement of only five. The crew were unable to contain it and it spread to the accommodation, forcing the master to abandon the ship with all crew. They were all rescued by helicopter.

Root cause/contributory factors

The root cause is not stated in the report, however the following contributory factors are noted: Editor

1. There was only one self-contained breathing apparatus (SCBA) set onboard, which inhibited the capability of the crew in fighting the fire;
2. A CO₂ extinguisher was used to knock down the fire; however, it re-ignited as the space was not effectively sealed;
3. The spread of the fire to the accommodation could not be controlled because the crew failed to follow boundary-cooling techniques and monitor all sides of the provision room;
4. Further, the senior officers had failed to take control of the fire party, to assess the situation and consider using a different medium to fight it.

Lessons learned

1. CO₂ can knock down a fire quickly: however its cooling effect is limited.
2. To prevent re-ignition, the space containing the seat of fire should be effectively sealed.
3. When applying boundary cooling to contain a fire, all sides of the space should be monitored.
4. Smoke helmets are not as effective as SCBAs for fire-fighting, especially on vessels with only a small number of crew. The IMO Maritime Safety Committee (MSC) has issued a circular highlighting the problems associated with the use of smoke helmet-type of breathing apparatus (MSC/Circ.1085).
5. The fire party should be led by a more senior officer, who should use his experience and knowledge to assess the situation and consider the most appropriate means to fight the fire.
6. Shipowners and administrations should consider fighting fires and other emergency situations when determining the safe manning levels of vessels.

MARS 200941

Galley fire

Just before noon, the cook was making French fries in a deep aluminium cooking pan, placed over the hot plate. When the potatoes were added to the hot oil, the pan was overfilled and some oil overflowed and landed on to the hot plate. The temperature of this was sufficient to cause the oil to auto-ignite. The flames immediately spread, causing the oil vapour in the pan also to ignite.

The cook instantly drew out the fire blanket from its container in the galley and covered the pan with it. However, the spilled oil on the hot plate continued to burn around the

covered pan, so he removed it, still-covered, and doused the flames on the hot plate with a wet towel. He telephoned the bridge to alert the OOW of the situation, by which time the fire had been extinguished with no damage to the galley or injury to personnel.

Root cause/contributory factors

1. Lack of company standard: the vessel was not fitted with a stand-alone deep fat fryer, resulting in the unsafe practice of open deep frying over a hot plate;
2. There was too much oil in the cooking pan before potato chips were added.

What went right

1. Galley staff commended for prompt and effective action.

What went wrong

1. No alarm was raised and crew was not mustered in an organised manner.

Corrective/preventative actions

1. Management to consider fitting stand-alone deep fat fryers in all newbuildings.
2. Cooks to use deeper cooking pans and smaller quantities of oil when cooking potato chips.
3. Fleet to discuss the incident at safety meeting and determine the circumstances under which the fire alarm should be activated and fire party mobilised. Also to impress upon crews that the fire party should be standing by for some time after the fire is extinguished to prevent re-ignition.



▲ Figure 5: Cook displaying fire blanket after the incident



▲ Figure 6: Cook demonstrating use of fire blanket

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Can you save a life, prevent injury, or contribute to a more effective shipping community? Everyone makes mistakes or has near misses but by contributing reports about these events to MARS, you can help others learn from your experiences. Reports concerning navigation, cargo, engineering, ISM management, mooring, leadership, ship design, training or any other aspect of operations are always welcome.

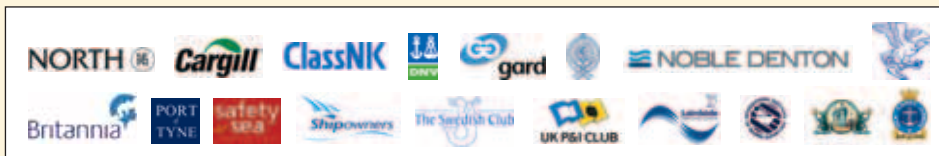
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